of this condition and which are worthy of special emphasis are: frequency of urination, pain out of all proportion to the cystoscopic findings, and marked decrease in the bladder capacity. At times very few, if any, pus or blood cells are found in the urine. Urethritis, which is usually associated with this condition, is at times partly responsible for the symptoms and should receive appropriate treatment.

Tuberculosis and syphilis of the bladder, the latter rare, should always be ruled out.

An occasional case will apparently respond to almost any method of treatment. Others seem to be incurable.

Peterson and Hager are to be congratulated on the excellent results following their treatment by fulguration, all of their patients, with one exception, showing initial symptomatic cure.

Kretschmer has also obtained good results following this method of treatment, but believes that recurrences are not so common following resection.

Resection is preferred at the Brady Urological Institute although deep fulguration is first tried.

Favorable results have been reported from distention of the bladder and the instillation or direct application of silver nitrate solution.

Intra- and extra-urinary foci of infection should always be eradicated if possible.

Improvement followed dilatation of the bladder and the instillation of basic fuchsin solution in one of my cases. Another responded to dilatation and the direct application of 10 per cent silver nitrate solution.

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FRANK HINMAN, M. D. (384 Post Street, San Francisco).—I think that the condition under discussion should be called after Hunner, who first described it. If we all speak of a Hunner lesion, we will all know what is being talked about. The condition is quite a definite entity and occurs in the bladder with certain typical characteristics. An important one of these that has not been mentioned is its tendency to occur in a line or linear formation which may be interrupted, so far as its activity is concerned. Overdistention of the bladder will bring out these separate lines of pin-point hemorrhage. Usually the lesion arches across from above one ureteral orifice to the corresponding region above the opposite orifice. There may be slight areas of inflammation branching off from this main arch. I have seen four or five typical cases in men. Usually the bladder urine is negative microscopically and bacteriologically. Fulguration has given me the best results in the treatment of the condition.

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ROBERT V. DAY, M. D. (1930 Wilshire Boulevard, Los Angeles).—No one seems to have thought much of the etiology of the interstitial ulcer except that it is produced by a hematogenous infection originating in a distinct focus of infection. No consideration is brought forth as to what determines the localization of the infection in the bladder wall. Almost every patient I have seen with this lesion, gave a history of being in the hospital and of being catheterized for a number of days or weeks during such stay in the hospital. The technique of catheterization of women in the hospitals is reprehensible. In the first place the bed sags down, the position is bad, and the usual light is insufficient. Next, soap and water, and finally lysol are usually employed, leaving a puddle of fluid around the fourchette which undoubtedly contains much pathogenic bacteria. Finally, a male catheter is used and introduced too far so that it shunts off laterally on one side or the other and traumatizes the wall of the bladder in about the situation that represents the center of the Hunner lesion.

As to treatment, I think most of us have gotten away from a wide resection; except in desperate cases, as a last resort. Good results have followed fulguration; but one wonders if the good results were not entirely due to the overdistention incident to the fulgurating under an anesthetic. Personally I have had just as good results from overdistention as from fulguration. It is difficult to believe that the increased scar from the fulgurating can finally be of any benefit.

ANESTHESIA IN THE SMALLER COMMUNITIES*

By R. G. HENDERSON, M. D.
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PROBABLY no influence has been greater in broadening the field of surgery than the discovery and introduction of ether as an anesthetic in 1846. Operative procedures were thereafter made possible which could not have been attempted before that era. The future of surgery depends just as markedly upon progress in methods and the discovery of new anesthetic substances. Upon the anesthetist of the future rests the responsibility of contributing his share to the progress of surgery.

Progress in the art of anesthesia has been rapid during the past twenty-five years. Perfection of apparatus and the introduction of additional anesthetic substances, available for general anesthesia, have given new impetus to the specialty. The trained anesthetist is now a necessary part of the surgical team and upon his skill often rests the success or failure of the operation.

The problem of making available satisfactory service in anesthesia for surgeons generally should receive thought and attention. In the larger cities, especially in large clinics, the problem has been solved. Full-time anesthetists are there employed who can devote all their energy to building up the service to a high degree of excellence. This is as it should be, and is ideal. I believe, however, that even under such conditions anesthetic service should extend beyond the realm of inhalation methods.

Spinal anesthesia, sacral and perisacral anesthesia should be administered by a competent anesthetist. The majority of surgeons are not interested primarily in the administration of anesthetics, but are forced to give spinal anesthetics because no anesthetist trained in their use is to be had. Skill in this type of anesthesia would broaden the field for one whose entire time is not taken up in giving other types of anesthesia.

In communities of medium size, where there is not enough anesthesia given to utilize all one anesthetist's time, other work could be employed. Gas therapy at present seems to be a closely allied side line which should interest anesthetists, and, oxygen therapy in pneumonias and other respiratory affections. Carbon dioxid is being used to deëtherize patients; also in the therapy of persistent hiccough. Where mornings only are used in the operating room, arrangement can be made to administer in the afternoon dental anesthetics, or anesthetics for short operative procedures for otolaryngologists. I have known some men to combine anesthesia with a medical specialty, as cardiology, quite successfully.

The problem of anesthesia service becomes increasingly difficult the smaller the community. In the past two years several inquiries have come to me regarding this situation. Many surgeons have

*Chairman's address, Anesthesiology Section, California Medical Association, at the Fifty-Eighth Annual Session, May 6-9, 1929.

been forced to employ lay anesthetists because no professional man interested in this specialty was present in the community. It seems to me that a greater effort should be taken to interest interns in anesthesia. Especially should they be instructed thoroughly in the use of gas anesthetics. Special short courses in anesthesia could be arranged in the larger clinics, where those who wished, could receive training. This would be far more instructive than a demonstration of apparatus by commercial houses whose interest terminates with the sale of a gas machine, the buyer using the apparatus on his own responsibility.

Two or three small communities, situated a few miles apart, might keep one trained anesthetist busy. Or, as suggested before, some other line could be pursued in conjunction with anesthesia. An endeavor should at least be made to increase the knowledge of anesthesia among medical men so that better anesthesia will be more generally available in the smaller localities.

Bank of Italy Building.

TOTI-MOSHER OPERATION IN OBSTRUCTION OF THE NASOLACHRYMAL DUCT*

REPORT OF CASES

By R. C. MARTIN, M.D.
AND
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DISCUSSION *by M. F. Weymann, M.D., Los Angeles; Roderic O'Connor, M.D., Oakland; H. J. Hara, M.D., Los Angeles; Barton J. Powell, M.D., Stockton.*

UNTIL recent years dacryocystectomy has been the only relief we have been able to offer patients with a chronic suppurative dacryocystitis. In simple epiphora, without infection, due to obstruction of the nasolachrymal duct, a small percentage of patients are relieved by probing. In the majority of these cases no permanent relief is obtained; they are benefited for only a short time and then return with their former symptoms.

It has been said that dacryocystectomy gives satisfactory results. It is true that the chronic inflammation of the conjunctiva is relieved by this procedure, the eye is no longer bathed in pus, and under ordinary circumstances there is no epiphora. Most of these patients, however, are not altogether happy. When out of doors on a cold day, or when the wind is blowing, they complain of the annoyance of the eye watering. In some instances this is sufficient to warrant partial extirpation of the lachrymal gland.

We feel that an operation of the Toti-Mosher type, in properly selected cases, gives excellent results, and from the patient's point of view, far superior results to extirpation of the sac. There are, however, certain contraindications that must be kept in mind.

It is absolutely essential that there be no stricture between the punctum and the sac, as this will, for obvious reasons, produce a failure. It has been surprising to see the relatively large number of these cases in which this type of stricture is present. It is desirable to avoid slitting the canaliculi.

In cases where cleaning up a lachrymal infection is a preparation for a cataract extraction, this type of operation is not indicated. Following the Toti-Mosher, there is no doubt but that the conjunctival sac is more exposed to possible infection from the nose. Consequently, it would seem poor judgment to perform, preliminary to a cataract extraction, an operation that would increase the hazard of infection.

From our small series of cases, we have found that a chronic suppurative dacryocystitis of long standing is no contraindication. In our first patient, a boy of ten, the chronic suppurative process had been present for four years. In several instances this condition had persisted for three or four years. In one patient there was a history of a bilateral chronic dacryocystitis of eight years' duration. The enlarged thickened sac does not complicate the operation, but rather facilitates the finding of the sac.

Judging from our one failure, extirpation of the remaining portion of the lachrymal sac is not complicated by a previously performed Toti-Mosher operation,

While these patients as a rule consult the ophthalmologist, we feel teamwork with a rhinologist has a decided advantage. A large portion of the work is primarily nasal, and in a certain percentage some preliminary intranasal procedure is necessary. Observation has shown that where these patients are operated upon by the ophthalmologist there is a much larger percentage of poor results. This is due primarily to a failure to carry out the details of the nasal portion of the operation. The ophthalmologist is, however, more competent to decide upon the advisability of the procedure and to carry out the postoperative treatment. His more intimate knowledge of the lachrymal apparatus is also a decided aid.

OPERATIVE TECHNIQUE

The technique of the operation is as follows:

At the time of the tear sac operation, or two weeks previously, any septal deviations and the anterior tip of the middle turbinate are removed; under local anesthesia, preferably. If this is not done adhesions will result from working in a narrow nose and will defeat the purpose of the operation. An incision is now made one centimeter from the inner canthus and parallel to the bridge of the nose. A curved incision or one closer to the inner canthus may result in a bowstring scar and must be avoided. The incision may be from one to three centimeters long, depending on the operator's preference. We prefer a large incision, as the scar is not bad.

The sac is lifted from its bed easily by working from above, downward and forward. Any other route of approach is apt to prove troublesome. The periosteum is always adherent at the inner canthal ligament.

* From the Departments of Otorhinolaryngology and Ophthalmology of the University of California Medical School.

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